

To find joy in work is to discover the fountain of youth.

--Pearl S. Buck

A Note From Our Chairman

The laboratory recently completed a survey of seatbelt use in government vehicles. The overwhelming number of drivers and passengers did not wear a seatbelt. This is clearly not a safe practice and I know that we all follow the driving safety rules. So please BUCKLE UP.

We just successfully completed the DOE / NASA pre-CD1 EBIS technical, cost and schedule review. All the recommendations that we received were directed not to the CD1 (Critical Decision 1) level but to the CD2 and CD3 steps. We therefore successfully completed all the necessary details for CD1 approval. All of these recommendations were of a minor nature. Congratulations to Jim Alessi and Kerry Mirabella and to everyone who contributed to the effort. The next step is for the local DOE office to make their presentation for approval to the ESAB (Energy Secretary Advisory Board) for CD1 approval. We are headed for a DOE construction start, CD2 and CD3, on October 2006. In the meanwhile the project has started using construction funds by NASA. We are planning for completion in FY2009.

The present running schedule has us starting NSRL operations on October 3, with completion on November 21. We will then turn on the AGS for cold-snake commissioning. RHIC cool down will commence on or about December 1, with first proton beam in the blue ring about 10 days later. The expectation is that we will run polarized protons at 100 GeV for a substantial time. I would also expect that we would raise the polarized proton energy to 250 GeV for an initial test and possible short physics run, if there were sufficient polarization at this energy.



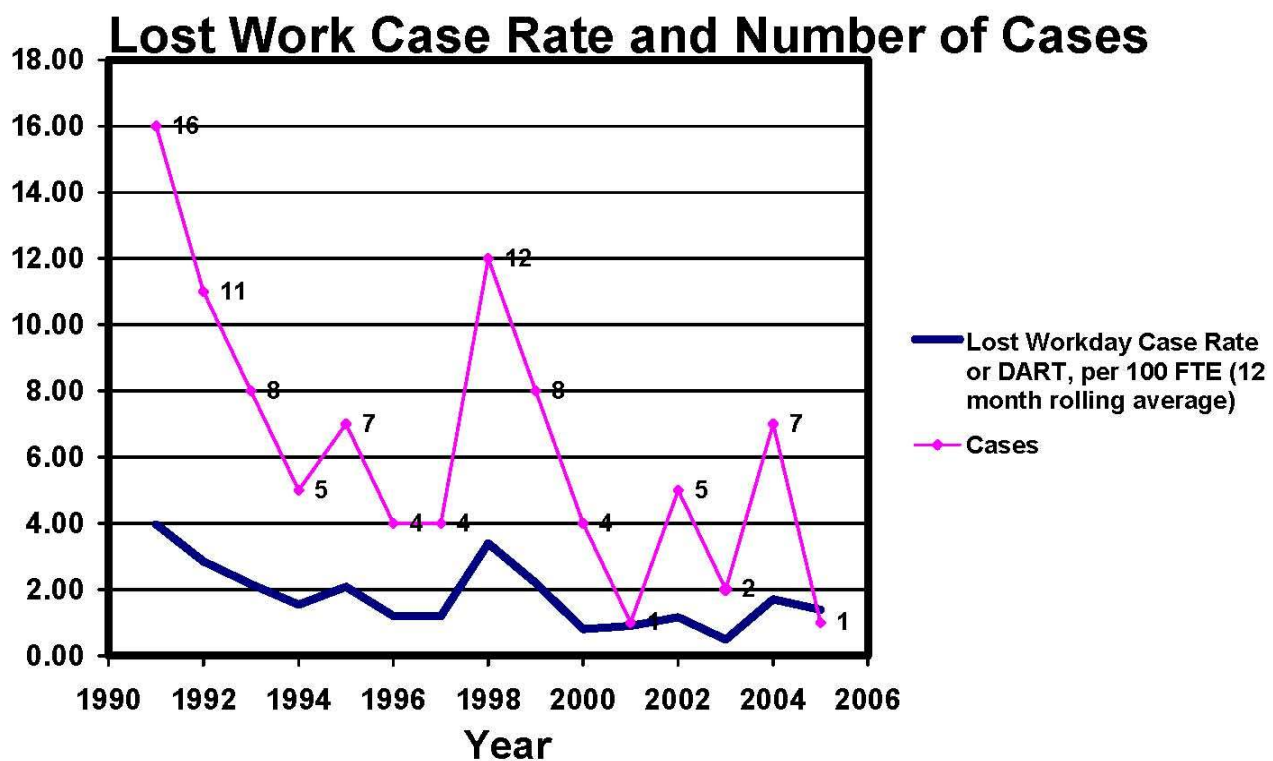
RHIC Operations cost for June was \$7.9M. Year-to-date cost of \$82M is 81% of this year's budget. Overtime expense and consumable materials are essentially flat. Commitments are \$2.7M.

Monthly employees in the Collider Accelerator began utilizing the Laboratory's Electronic Time Reporting System (ETR) during July. The effort invested by department employees in computer based training, as well as active participation in scheduled training sessions, helped to insure that our first labor closing on July 28th proceeded smoothly. Thank you all for your efforts.

A blanket order with K.C. Electronics for various electronic and electrical parts and materials became available for use by C-AD personnel at the end of June. This order was set up to take advantage of the lower overhead assessed on large procurements and saves the department \$.31 in overhead for each material dollar spent. Please contact Steve Bubka or Ann Lamberti for information on how to utilize the blanket order to procure materials.



file:///O:/public_html/August Particle Post.htm (2 of 20)11/3/2005 6:29:52 AM



C-AD Occupational Injury Statistics

For Year 2003

For Year 2005

First Aid Cases	5	0
Recordable Cases	11	3
Lost Workday Cases	4	1

Recordable Cases	11	3
Lost Work Cases	4	1

REMINDER: TLD exchange is done the FIRST FRIDAY of the Month.

NEXT EXCHANGE: Have your TLD on its assigned badge board by
Friday, SEPTEMBER 2, 2005

Defensive Driving At BNL

Call the

ES & H division for more information
and class schedules at Ext. 4207

A little sunshine and fresh air is good for you, but, at least for the former, a little goes a long way. And a lot, as you can see by the photo below, goes a much longer way to giving you a hide like an elephant. Not healthy and definitely not attractive.

If you overdose on the sun the price will mount way beyond the cost of a few quarts of suntan lotion. Go for the SPF 30. Wear long pants and long sleeves. Tee off in the afternoon. Hit the beach early or late, and avoid the middle of the day, and wear a hat.



The ESH&Q Directorate distributes a monthly publication to the Lab community that provides brief summaries of selected recent BNL environmental, safety, and health events. It is highly recommended that you distribute this summary and review it with your staff, visitors, and guests, and use it as an opportunity to discuss how similar events might be prevented in the future. Your comments and suggestions for preventing accidents and incidents are welcome.

The July summary, in pdf format, can be found at: http://intranet.bnl.gov/ESHQ/files/ESH_Summary/July_05/July%2005%20ESH%20summary.pdf

Pete Cirnigliaro

This message is sent on behalf of Derek Lowenstein:

To: C-AD staff
From: D.I. Lowenstein
Subject: Safety Performance

We have now worked over 0.5 years without a lost workday injury. I would like to congratulate everyone in the department for this excellent performance. This achievement does not imply that we don't have nicks and scrapes that require some first aid attention. I would like to reinforce that no one should avoid reporting to their supervisor and receiving medical attention if needed. The act of reporting a minor event is to avoid the major one in the future. Immediate medical attention can avoid a long, painful and costly future recovery. We all learn from our mistakes and it is important that all of us learn from each other. This department's policy is to encourage the self-evaluation process and not punish any individual for a mistake or accident. Keep up the great safety performance.



Edward Bajon, Co-Op Engineer, Preinjector Systems Group will be leaving August 26.

Edward D'Azzo-Caisser, Summer student, Preinjector Systems Group, will be leaving August 12.

Serguei Kokhanovskii, Physics Associate, Preinjector Systems Group will be leaving August 31.

Christopher Nachias, Summer student, Electrical Systems Group will be leaving August 12.

Victor Parris, GEM Fellow, Controls Division will be leaving August 19.

Vernon Mickle, Student Assistant, Mechanical Systems Group will be leaving August 23.

Yevhen Rutovytsky, Summer student, Controls Division will be leaving August 12.

Noreen Spanski, Summer student, Physics Support Group will be leaving August 12.

Michael Tien, Summer student, Vacuum Systems Group will be leaving August 12.

Khatune Zannat, Co-Op Engineer, Electrical Systems Group will be leaving August 19.

We Wish You All Continued Success!

John Hauser Named Brookhaven Lab's Assistant Laboratory Director for Finance

John Hauser has been named Assistant Laboratory Director for Finance at the U.S. Department of Energy's (DOE) Brookhaven National Laboratory, effective July 22. In addition, he has been appointed Corporate Chief Financial Officer for Brookhaven Science Associates (BSA), the research management company that operates Brookhaven Lab for DOE. Hauser succeeds Brian P. Sack, who held these positions since 1999.

As the Laboratory's chief financial officer, Hauser oversees Brookhaven's Budget Office, Business Systems Division, and Fiscal Services Division. He also is responsible for a broad range of financial activities, including the planning and implementation of the Laboratory's fiscal matters and its approximately \$467 million annual budget. As chief financial officer of BSA, he administers the company's \$7.4-million annual budget.

"I am very privileged to have been selected as Brookhaven's Assistant Director for Finance," Hauser said. "While these are financially challenging times for the Laboratory, I am encouraged by the Lab Director's strategic plan to establish new facilities at Brookhaven, such as the Center for Functional Nanomaterials and the National Synchrotron Light Source-II, a more powerful light source than our current facility. My 28 years at Brookhaven have proven to me that our strength is in our people who are smart, motivated, and capable of achieving great things."

John Hauser earned a B.A. in history and an MBA in financial management from Iona College in 1969 and 1973, respectively, and a post-masters certificate in management information systems from Iona's Hagen Graduate School of Business in 1984. From 1969 to 1972, Hauser was a credit analyst and later an administrative assistant in financial control and

administration at Union Carbide Corporation. In 1972, he moved to Clairol, Inc., where he was a senior financial analyst until he joined Brookhaven in 1977 as a senior budget analyst in the Budget Office. He worked his way up to Deputy Budget Officer in 1986 and then moved to Brookhaven's Relativistic Heavy Ion Collider Project in 1990, where he was Assistant Project Director for Administration and Management Systems for the \$616-million project. In 1999, he became Assistant Project Chairman for Administration and Management Systems for the Collider Accelerator Department. In November 2004, he was chosen as Interim Assistant Laboratory Director for Finance, a position he held until his current appointment.

Congratulations John - from all of us at C-AD

This is an interesting and nice feature story that appeared in the July 8-14 edition of the Long Island Business News.

Nuclear Family

Long Island Business News

07/14/2005

Fulvia Pilat likes fast cars. She drives a two-seat Mercedes SLK convertible with a six-speed stick that moves like a panther closing in on its next hot meal.

The Italian-born physicist at Brookhaven National Laboratory also likes fast particles. The kind that approach the speed of light.

That's what brought her to Brookhaven's \$600 million Relativistic Heavy Ion Collider - that's RHIC (pronounced "Rick") for short.

With a circumference of 2.4 miles, RHIC's underground oval tunnel is large enough to register in satellite photos and just a shade smaller than the track for the Indianapolis 500. Gold ion particles used in RHIC, however, travel a bit faster than the typical Indy car's 230-odd miles per hour. RHIC slings the beams around at nearly 186,000 miles-per-second. About 800 people collaborate to run the machine and analyze results. Temperatures inside a particle collision: Hotter than the center of the sun. The superconducting wire used to power RHIC's magnets would stretch from New York to California and back twice.

Pilat's job as a run coordinator is to tame this beast.

She arrives at a recent 8:30 a.m. "run meeting" in a chiffon dress and high heels after hustling her three daughters to school. She joins about 35 other scientists - predominantly men - to discuss RHIC's last 16 hours or so of operation before the collider is shut down for the summer, in part as a concession to the Long Island Power Authority whose capacity is

stretched during those months.

Meeting dress is casual. Scientists arrive in shorts, T-shirts, jeans, sandals and sneakers. Accents are Eastern European, British, Asian, American and Italian. The run coordinator on this day, Mei Bai, displays a PowerPoint showing graphs of RHIC's performance. She leads a lively discussion, but the language is collider-speak, generally opaque to outsiders. Talk veers from "ramps" to "bunch intensity" to "common cavity."

Eventually, the run meeting breaks up and Pilat goes to her spartan office on the converted Army base. It is adorned with a few family pictures and some prints by Dali, Van Gogh and Gustav Klimt.

Between answering a reporter's questions and giving him a quick physics lesson, she responds to dozens of e-mails and monitors RHIC's progress via the Intranet at the Department of Energy-supported laboratory. The effusive Pilat sometimes runs out of hands between gesturing and e-mailing and monitoring.

"The machine is trying to describe how protons and neutrons behave in a situation of extreme temperature and pressure," she explains.

She may be delving into the mysteries of the cosmos, but Pilat's work life would not be entirely unfamiliar to industrial engineers charged with running any exotic machine. Her day is filled with meetings with her team. She monitors RHIC's workings remotely via computer and goes to the main control room, where physicists and technicians take the pulse of RHIC, whose 1,740 giant, superconducting magnets (many of which were made in Bethpage by Northrop Grumman) guide and focus the particle beams around two rings.

Those days when she is acting as the run coordinator, Pilat works relentlessly, sometimes pulling a night shift. For those months, Pilat may catch only four hours of sleep.

"Typically the schedule of the day is determined by the machine," she said. "If it needs to be done, then it gets done. When we're running normal operations - although I don't think there are anything like routine operations - we have an operations group and they are basically running the machine 24 hours a day. The moment there is something special to do - you want to test something new or push the performance of the machine - then the physicists go in."

Pilat wasn't always determined to be a physicist. She was born and reared in Trieste. "I have a brother and two great parents," she said. "My immediate family was pretty nuclear. There were only four of us."

Her parents, while not academics, were "intellectually alive" and willing to offer Pilat the freedom she needed to explore.

"Looking back, I was not really your standard type of kid," she said. "I was always trying to run a little faster and explore a little more than I was supposed to."

As a child, Pilat sometimes got bruised climbing walls or trees. Later, she pushed intellectual boundaries.

"The way I got into the physics business was I started to get interested in philosophy in high school," she said. "You're never so intellectually curious as when you're 17 or 18, I found. Things seemed so important at the time."

When she considered philosophy as a career, however, there were some issues.

"Philosophy sounded interesting," Pilat said, "but can I really see myself reading books for the rest of my life? It didn't seem to be the right thing. I came to the conclusion that the philosophy of the modern world is high-energy physics. You think about the structural reality. You try to learn about that in a much more dynamic way then you would be doing if you were reading a book of Kant and Hegel for the rest of your life."

Further pushing her into the realm of physics was a lecture series about high-energy physics at her high school and the realization that a career in physics also can be a ticket to see the world.

"I always thought the world was a little too small to stay in your backyard for the rest of your life," she said. Discovering that top elementary-particle physicists worked at major laboratories throughout the world, Pilat said: "Ah hah! This is good."

After attending the University of Trieste, she moved to CERN, the European Organization for Nuclear Research and the world's largest particle physics center. There she worked on her thesis and met her husband, Michael Botlo.

Botlo has moved from physics to Wall Street, using his scientific background to help Morgan Stanley and Merrill Lynch with large-scale data systems and trading operations. But, when they worked together at CERN and later at Brookhaven National Laboratory, Botlo and Pilat formed a rare alliance between those like Botlo who devise experiments and interpret RHIC's data and those like Pilat who work on running the beam and finding ways to tweak its performance.

Between CERN and Brookhaven, they worked on the Superconducting Super Collider, a Department of Energy project outside Dallas. At a circumference of 54 miles, it was to be the Mother of All Atom Smashers. But after spending \$2 billion, Washington pulled the plug on the project in 1993.

"It was the biggest science project in the world," Pilat said. "We fell for it."

Unlike most of us, whose jobs making software or military weapons or pharmaceuticals or newspapers revolve around the here and now, the scientists at RHIC are working on a theoretical plane. Commercial applications, if they come, are in some mist-shrouded future.

The goal at RHIC is to recreate conditions a tiny fraction of a second after the birth of the universe 14 billion years ago in the "Big Bang." Their method is smashing together particles -

usually gold atoms with their electrons stripped away.

Scientists believe in that microsecond after the Big Bang, when the whole universe was packed into a single infinitely dense and infinitely hot point, matter existed only as quarks and gluons, the component parts of protons and neutrons. The temperature was a balmy 1 trillion degrees Celsius. The particle collisions, scientists hope, will lead to an understanding of the "strong force," a theory that describes the interaction between quarks and gluons.

Though they operate in the realm of "big science" and require massive colliders to conduct their work, particle physicists usually labor far from the public glare. That changed for Brookhaven scientists, however, in April.

Exactly 100 years after Einstein wrote cornerstone papers on quantum and special relativity theory, Brookhaven scientists announced a scientific discovery so curious that it made headlines worldwide.

In essence, RHIC threw a curveball. Particle scientists expected that when the protons and neutrons of gold ions were smashed into quarks and gluons that they would become a plasma, a gas of charged particles. In fact, RHIC was created to find just such a plasma, Pilat noted.

Getting a clearer view of that plasma would help scientists understand not only the aftermath of the Big Bang, but also how matter interacts today at the subatomic level.

When scientists were reanalyzing the data from years of particle collisions inside RHIC, however, they realized the stuff was simply not behaving like plasma.

"It turns out when quarks are free to roam, the resulting state behaves like a liquid," Pilat said.

Scientists said by their calculations this particle soup flowed even better than water. They began calling it the "perfect liquid."

"This is the punchline," Pilat said. "Now they have to figure out the implications."



Fulvia joined BNL in 1994 with the RHIC Project. She then came to the Collider-Accelerator Department in 1999. She and husband Michael Botlo have been married for 17 years and have 3 daughters, Katharina, 17, Alexandra, 12, and Angelica, 10. Fulvia's hobbies include: visiting art museums & galleries, painting, gym and skiing and especially spending time with her family.

Additional newsclips pertaining to BNL may be found at
<http://intranet.bnl.gov/newsclips/clipsindex2.asp>. This service is available for BNL only.

Do Not Call Registry

New Yorkers will soon be receiving greater protections from telemarketers, due to a new law sponsored by Senator Charles J. Fuschillo, Jr. (8th Senate District). The new law will amend New York State's "Do Not Call" Registry by eliminating certain exemptions.

"The 'Do Not Call' Registry has been extremely effective in affording consumers protections from unwanted telemarketing phone calls, and thanks to these new amendments, it will be even more useful," said Fuschillo, who is Chairman on the Senate's Consumer Protection Committee and the original sponsor of the "Do Not Call" Registry in New York.

This new law will eliminate an exemption that allowed telemarketers to make unsolicited calls asking consumers who were already registered on the "Do Not Call" Registry for a "face-to-face" meeting or sales presentation to discuss an offer. In addition, businesses will no longer be allowed to make telemarketing calls to consumers with whom they have an established business relationship if those customers have asked not to receive them.

The new provisions make the State "Do Not Call" Registry more consistent with the federal government's nationwide "Do Not Call" program, allowing for better enforcement by the New York State Consumer Protection Board. The federal registry prohibits businesses from calling customers who have already stated that they do not wish to receive calls from or on behalf of that seller, and there is no federal exemption for callers requesting face-to-face meetings.

Over 4 million phone numbers have been registered with the New York State "Do Not Call" Registry since its inception in 2000 and the Consumer Protection Board has collected over one million dollars in fines. To register your phone number, please visit www.donotcall.gov or call 1-888-382-1222.

If you are already on the Registry and would like to file a complaint regarding a telemarketer, you can call the New York State Consumer Protection Board at 1-800-697-1220. You can also file a complaint by visiting their website at www.consumer.state.ny.us and clicking on the "Do Not Call" link.

Neighbor Newspapers, 8/3/05

E-Z Pass is Commuter Aid

Suffolk County motorists can save time and money during their daily commute and on weekend road trips by signing up for a New York State E-ZPass tag. E-ZPass allows motorists to prepay charges incurred at highway and bridge toll facilities throughout New York and in other Northeast states. Rather than wait in line to pay tolls, drivers can use E-ZPass lanes that electronically scan a "tag" that is placed on the vehicle's windshield. There is no cost to obtain a tag. Individuals replenish their E-ZPass accounts when the balance is low. It is available in a variety of special-discount commuter and resident plans, depending on which highways and bridges a motorists travels on regularly. Frequent travelers also can choose the basic plan, which requires no minimum use and is applicable wherever an E-ZPass sign is displayed. Remember E-ZPass can also be used on some highways and bridges in nine other states, including Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, Pennsylvania, Virginia and West Virginia. For additional information or to open an account, contact the E-ZPass toll-free number at 1-800-333-8655, or visit the E-ZPass Web site at www.e-zpassny.com.



*We wish all of you born in **AUGUST**
a happy and healthy year ahead.*

Birthday people ONLY click on cake



for July

<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Congratulations!!



Tic-Tac-Toe

against the computer

Player 1	Player 2	Remise

Free JavaScripts provided
by [The JavaScript Source](#)



BBQ Video

Larry Arnold made a video of the BBQ. If you would like to borrow it to view, please stop by Gladys Blas' office, Room A236



ALUMNI NEWS: AGS/RHIC/C-AD RETIRED CROWD -We'd enjoy hearing from you and what you're up to! Send your notes to pmanning@bnl.gov

You can catch up on all of Eric Forsyth's travels by clicking on his sailing yacht below



August 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
--------	--------	---------	-----------	----------	--------	----------

	1	2	3	4	5	6
				Particle Physics Seminar "Recent Results from CMD2 Experiment" Dr. Boris Khazen, Institute of Nuclear Physics, Novosibirsk, Russia Hosted by Ketevi Assamagan 11:00 AM, Sm. Seminar Rm, Bldg. 510		
7	8	9	10	11	12	13
Summer Tour See how light is used to make discoveries at the National Synchrotron Light Source. 10am-3pm Berkner			SBU/BNL Nanoscience Seminar Series "Bio-Composite Materials for Selective Chemosensors" Perena Gouma, SUNY Stony Brook 1:30 PM, Hamilton Seminar Room, Bldg. 555	Community Advisory Council Workshop "Open to the Public" 6:00 PM, Berkner Hall, Room B		

14	15	16	17	18	19	20
Summer Tour Celebrate the World Year of Physics and more on Celebration Sunday. 10am-3pm Berkner					Timecards Due	
21	22	23	24	25	26	27
Summer Tour Visit the Relativistic Heavy Ion Collider, where physicists probe the beginning of the Universe. 10am-3pm Berkner				C-AD Seminar "The Virtual Prototyping of Compact Cyclotron" Prof. Fan, HUST 4:00pm, 911B, LCR		
28	29	30	31			



September

2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5 Holiday	6	7	8 Community Advisory Council Meeting "Open to the Public" 7:00 PM, Berkner Hall, Room B	9	10
11	12	13 BSA Colloquium "Science Policy and Politics" Pat Looney, BNL Hosted by Peter Wanderer	14	15	16	17

4:00 PM,
Berkner
Hall
Auditorium

18

19

20

21

22

23

24

**Brookhaven
Lecture**
"Photovoltaics
and the
Environment"
Vasilis
Fthenakis,
Environmental
Sciences
Department
4:00 PM,
Berkner Hall
Auditorium

25

26

27

28

29

30

Editor: [Pamela Manning x4072](#)



We Remember
Sept. 11, 2001